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Original Communications.

REST.

By Irenæus P. Davis, M.D., Lenox.

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Rest is re-creation; that is, reproduction of power, to be stored up in the tissues as in reservoirs. Examples of reserved forces, throughout the animal economy and even in the vegetable world, seem to indicate a complete system of stored power, to be reproduced as fast as consumed, and the supply, so long as the conditions of health are observed, to be in exact ratio to the demand.

Weariness is a sensation of power lost. It differs from simple weakness, which is a want of power. Therefore weakness is an element of weariness, the latter never existing without the former, while the former may exist without the latter. Common parlance recognizes this difference. We speak of weariness as a feeling of being worn out. This is literally correct. In a normal condition of the system, the processes of assimilation and disassimilation are perfectly antagonized, the one by the other. These processes are necessary to the vitality of the tissues. Life is a continual death, a continual wasting of material, and the supply must be maintained, otherwise life ceases as a fire ceases to burn when the fuel is exhausted. Life is action, therefore an unusual degree of activity involves an intense form of life, an extraordinary destruction of tissue. This destroys the balance between assimilation and disassimilation, and, so long as this action continues, the two operations will be disproportionate, reproduction not keeping pace with the waste. An organ in constant exercise is thus actually wearing out. It is true that the demand, in a measure, regulates the supply, that the greater the consumption the greater is the production of new material. Here we find the law of compensation illustrated. But this change requires time, and, meanwhile, destruction is going on in greater ratio than reparation; moreover, as the supply is increased, the action becomes more intense, consequently consumption is ever in advance of production; hence we experience weariness, the sensory nerves convey intelligence of the exhausted condition of organs that have been long in action, and warn us to give them time to recuperate. If we cannot or do not heed the intimation, the destructive process goes on till the organs are no longer capable of performing their functions, and, perhaps, till the power of assimilation is forever lost.

Were the waste and repair of tissue always equal during activity of organs, their action might be continued indefinitely; and this is indeed true of some. The operations performed by the organs concerned in circulation and respiration and some of the organs of secretion and excretion, with the nerves controlling them, are frequently cited as instances of continual action; but the heart, perhaps most often referred to as illustrative of this condition, does not act without intermission, and the same is doubtless true of most of the other organs mentioned. The intermission is brief, but so is the action, and the relation of waste to repair is so adjusted that the brief period of rest is just sufficient to preserve the equilibrium between the two processes. Probably the best example in life, of incessant activity, is afforded by the nerves of hearing. For them, labor is the normal condition, and in them the opposing forces of assimilation and disassimilation are so perfectly balanced that in a state of health they require no rest. Even in sleep, the nerves of hearing remain on the alert, taking cognizance of every sound, and discriminating one sound from another with as unerring accuracy as during waking hours. That this is a fact is beyond doubt. Although, during profound sleep, the mind is unconscious of sounds, yet it must be that they are appreciated by the organs of hearing, for sound is a common means of rousing persons from sleep. Now, in order to dissipate sleep, it is necessary that some cause shall operate, the effect of which will be appreciated *during the continuance of sleep;* and, as the impression of sound is received only through the medium of the auditory nerves, did they cease to exercise their power during sleep, no sound, however loud, could possibly wake a sleeper. Again, we find that persons, having fallen asleep in the midst of continuous noise, always wake on the sudden cessation of the sound; showing that not only are sounds occasionally heard in sleep, but they are always observed when present. We also observe that the mother wakes at the first cry of the child, and the physician at the ringing of the office bell, while the same persons, in many instances, sleep uninterruptedly through the severest thunder storms; and those who are acquainted with the business of telegraphing say that in offices where a dozen machines are in use, each with a separate attendant, it is common for a night operator to sleep until his own machine calls, when he instantly springs forward to receive the message; though he may be until that moment sleeping soundly and on the opposite side of the room, and though half of the machines in the room be ticking at the same time and almost constantly changing, some stopping and others commencing, while all are so nearly alike in sound that a stranger has difficulty to distinguish one from another even while awake. Therefore we know that the nerves of hearing distinguish accurately, during sleep, between different sounds. It follows, then, that persons, living in the neighborhood of waterfalls or other sources of incessant sound, can have no rest for the organs of hearing. Nor is such rest necessary. As has been before remarked, the arrangement is such that the action of hearing can go indefinitely without fatigue. The sense of hearing is beyond our control. So long as sound is present we must receive it. Even the action of the heart is less removed from the influence of volition than that of the organs of hearing, while the operations of digestion are in a much greater degree controlled by the will; and, other things being equal, just in proportion to the susceptibility of voluntary control is the amount of rest required. This law seems to be universal in its application to the human system, and its utility is at once apparent. The voluntary muscles, being more under the control of the will than any other parts, require and receive a greater amount of rest than any other organs.

All actions are duplex, involving two powers; the power of originating an impulse, and the power of responding to that impulse. Thus, in the action of a muscle, the impulse must originate in a nerve centre, and the muscle, in obedience to that impulse communicated by the nerve, contracts. We have, then, two organs, entirely distinct, concerned in a single action; and, supposing these organs to be equally under the control of the will, they must be affected in the same degree by a continuance of the action. All voluntary movements originating in cerebral nerve-centres wholly subject to volition, brain and muscle suffer equally from their excess. In reflex movements, the motor impulse is developed in a spinal center, over which the will has no influence, and is thence conveyed to the muscles in the same manner as in the former case; but the spinal nerve centres, being in their action independent of volition, work without impairing their power to labor, and therefore their force is constantly generated so long as the peculiar irritation is continued which calls their function into exercise. On the other hand, the muscles are affected in the same manner as if their action originated in the brain; for the conservative provision, by which organs not subject to voluntary control are capable of unremitting activity, has no bearing on the action of voluntary muscles, even when such action is in its origin separated from the operation of the will. The object of the said provision is, evidently, to secure the equilibrium of vitality to those organs that, in their ordinary operation, are incapable of securing it through the medium of the will. The law is, therefore, a fixed one, in its relations to the various organs, being rather associated with the mode of action than dependent upon it. Moreover, the action of a voluntary muscle, in itself considered, is always the same except in intensity, whatever the exciting cause. A muscle is capable of contracting, in response to an impulse received from one of three sources; from the centre of intelligent nerve power, from the centre of unintelligent or reflex nerve power, and from electricity, which has been shown to be entirely distinct from nerve power; and, from whichever of these sources the impulse is received, it is responded to in the same manner, and with precisely similar results to the muscle, the degree of the action and of the results being regulated by the strength of the impulse and the capacity of the muscle for receiving impulses. In continued reflex action, then, the muscles suffer exactly as in the same degree of voluntary action, while the spinal nerve-centres remain uninjured. Therefore, so long as irritation provocative of reflex action is present, and the muscles have not undergone degenerative change sufficient to destroy their function, the nerves impel them to the exercise of that function. On this account, greater exhaustion is frequently produced by reflex than by voluntary motion.

The manifestations of the exhausted condition consequent on neglect of rest are somewhat varied. When the exhaustion is slight, a sensation of weariness, with temporarily diminished power, are the immediate results, while the law of supply and demand, before noted, provides that, if action be now suspended for a time, nutrition is increased and the power for subsequent action is intensified. When exhaustion is complete, loss of power and atrophy of course result. If exhaustion, being very great, is yet not entire, a disordered and convulsive action ensues, seemingly the final effort of life for mastery: for it is a universal law of animated nature, that, as death approaches, the vital energies are concentrated in one mighty effort for the continuance of life. Instances of the operation of this law are seen among vegetables. The dying tree puts forth unseasonable blossoms, or gives other indications of that struggle without which life is not yielded. The peculiar relation of one organ to another, known as sympathy, and supposed to depend on some sort of nervous connection, has, although its operation is not understood, certain well marked and definite results. For example, traumatic inflammation occurs in one eye, and, without contagion, without direct injury, without any known cause, the other eye becomes inflamed also, and we say the extension of the disease is sympathetic; or, one organ being diseased, sympathetic pain is felt in another organ, entirely distinct and to all appearance healthy. A similar phenomenon often occurs after undue action of one part. Other parts, not concerned in the action, sympathize in the exhaustion following it, and require rest. That this sympathetic exhaustion is not dependent on contiguity of parts is proved by the fact that it occurs in those that are remote from the seat of action, as when a fatiguing walk is followed by neuralgic pain in the face; and that it is not due to the general drain on the system caused by the wearing out of a part, by the fact that a very great degree of sympathetic exhaustion frequently follows the exercise of a very small organ, as, for example, the eye.

Rest may be absolute or relative. Absolute rest consists in a cessation from labor. Relative rest is a change of labor, the change being not in degree, but in kind. Examples of the former are afforded by voluntary muscles, nerves, and all organs requiring rest, whose office is to perform a single act. Examples of the latter mode of rest are furnished by the brain, which is capable of performing actions differing in their nature. The muscle simply contracts, the nerve conveys impressions only, while the brain receives impressions, converts them into impulses, originates ideas, forms the ideas into thoughts, clothes the thoughts with language, and gives expression to the language. All of these are different forms of labor, the capacity for each depending on a reserve power distinct from the power which limits each of the others. Therefore, one action of the brain being suspended, the reserve power by which it is maintained may be reproduced even while another action of the same organ is going on. Thus the brain receives rest relative to one mode of labor even while it continues to labor in another direction. But this change of labor is not sufficient to maintain the equilibrium of health, and therefore the brain receives also a certain amount of absolute rest. The condition of sleep is to the mind what relaxation is to the muscles, simple inaction. During sleep the intelligent faculties cease to operate, though the organs of sense retain their power to receive impressions, and reflex action continues; so that, though external impressions are constantly being received, no intelligent action is taken thereon. Too little sleep produces in the brain the same results that follow excessive action in other organs, viz., exhaustion, irritability, and disordered action. On the other hand, too much sleep produces the legitimate effect of long-continued inaction, inertia. Inaction ceases to be rest when it passes beyond the point necessary for recuperation. After this point is reached, if the force generated is not consumed, the vascularity of the neglected organ soon becomes permanently diminished, nutrition is impaired, and atrophy ensues.

The relation of rest to disease is exceedingly interesting, and vitally important, but time forbids more than an allusion to it on the present occasion. As a curative measure, rest is of the greatest consequence in the management of all inflammatory diseases and of nearly all others. In importance, and in universal application, it stands far ahead of all other therapeutic agents. "If he sleep, he shall do well," is a maxim which has received the sanction of all schools of medicine, in all ages, and in every land.

THE Medical International Congress of Vienna took place from the 2nd to the 10th of Sept. The most liberal arrangements were made as regarded foreign visitors. There were six principal questions to be discussed. (1) Vaccination; (2) syphilis and prostitution; (3) cholera and quarantines; (4) a universal pharmacopœia; (5) freedom of practice in all countries for qualified men; (6) hygiene of large towns.

Progress in Medicine.

REPORT ON OTOLOGY.

By J. ORNE GREEN, M.D.

[Concluded from p. 339.]

(4.) **POLITZER** has studied the pathological changes in the vessels of the tympanum in cases of chronic purulent inflammation with perforation, and finds that the arteries are few in number and not enlarged, but the veins are seen in large numbers, some enlarged to many times their natural size, and occasional bulgings. From the large number of these veins, which often form a thick network, he concludes that new vessels are formed during the disease. He also demonstrates not only the existence of lymph-vessels in the tympanic mucous membrane, but found these vessels enlarged into irregular cavities, with sharp outlines, and lined with epithelium, normal in some places, and in others filled with molecules and fat globules.

(5.) Gruber, considering that abnormal tension of the membrana tympani may be the cause of disturbances of hearing, not only in itself but also in its action on the position of the ossicula, proposes to relieve this by making several incisions through the membrane, and, by after-treatment, to prevent the membrane from again recovering its great tension. The operation is proposed in those cases in which the tension cannot be relieved by the air-douche, or in which the air-douche is liable to produce relaxation of portions of the membrane. For the diagnosis of abnormal tension, he depends on the curvature of the membrane, which can be decided from the folds of the membrane and from the position of the manubrium. Siegle's speculum he finds of value in establishing the degree of tension, and also the auscultatory sounds with the air-douche. The portions of the membrane to be incised, and the length of the incisions, are not given, apparently because he considers these points matters of indifference; the number of the incisions is generally from two to four. The operation is not very painful, the inflammatory reaction slight, and the results he praises highly. The clinical histories of several cases, which were very much benefited by the operation, are given.

(6.) Gruber has examined the course of the tensor tympani muscle on a large number of preparations, in its relation to the operation of tenotomy, and finds that the end of the osseous canal, from which the muscle passes out into the tympanum, varies somewhat in its position, but generally lies behind the line of the manubrium; "in the majority of temporal bones examined, the semicanal of the tensor tympani ended nearly at the middle of the upper edge of the oval window; in some cases at the posterior edge of the window, and only in a few cases in front of the middle of the window." From this it is evident that, in order to reach the hammer, "the tendon must pass in a downward, forward and outward direction." The position of the manubrium, he considers, will indicate the course of the muscle, and decide on the best point to perforate the membrana tympani for tenotomy. If the manubrium is drawn directly inwards, the course of the muscle is inwards; if the manubrium is drawn both backwards and inwards, the course of the muscle must be somewhat backwards. A general rule for the point of election in perforating the membrane for tenotomy, he thinks, cannot be given, but a decision must be reached in each individual case from the appearances and condition of the membrana tympani and of the manubrium.

(7.) Dr. Buck, in an exhaustive and thoroughly practical article, divides the diseases of the mastoid process into five varieties:—(1) inflammation of the external periosteum; (2) simple congestion of the mucous membrane; (3) congestion and filling up of the cells with a reddish, pulpy material; (4) chronic subacute inflammation of the mucous membrane, with sclerosis or hyperostosis; (5) caries, with accumulation of pus, within the mastoid process, the second, third and fifth varieties being different stages of an acute inflammation.

The first variety consists of an inflammation of the external periosteum only, the result of an inflammation of the meatus, which extends, *ex contiguo*, backwards; it may go on to the formation of a subacute cellular abscess. The treatment should be directed to the meatus as the original disease, unless pus has actually formed, when it should be evacuated by incision. The small gland lying over the mastoid may become inflamed, and this should be distinguished from the inflammation of the periosteum proper.

The second variety is often seen in acute inflammation of the middle ear, and is characterized by pain behind the ear, tenderness on pressure over the mastoid, and occasionally by slight swelling. Active local bleeding, either by leeches, or, if these are not sufficient, by free incision through the periosteum, will generally relieve permanently.

The fourth variety, sclerosis or hyperostosis, is the result of long-continued inflammation of the mucous lining of the cells; its progress is insidious, its symptoms slight, if any, and its diagnosis impossible.

The third and fifth varieties can, with difficulty, be distinguished from each other, it being often impossible to decide when the former has passed into the latter; both endanger the life of the patient. The probable change from one form to the other is thus described by Buck: "the intercellular passages being closed, and the cells themselves filled with the swollen and congested mucous membrane, stasis follows in the local circulation, the bone becomes deprived of its nourishment, and the soft parts filling, the cells break down into pus. The bony septa then either become dissolved, forming granular detritus, or separate as a connected whole from the surrounding healthy bone." The disease may terminate either in death from basilar meningitis, abscess of the brain, embolus and pyæmia, or exhaustion, or else in recovery after the extrusion of the carious bone. Pain and tenderness on pressure are almost always present, and the following aids to diagnosis are given by Dr. Buck. Prolapse of the posterior and superior wall of the meatus is occasionally seen, associated with caries; brain symptoms may occur in inflammation, with or without pus, or may be absent, with extensive caries; facial paralysis occasionally occurs, from the bony walls of the tympanum, in which the nerve lies, being involved; cessation or diminution of the purulent otorrhœa usually precedes acute mastoid inflammation; occasionally, the membrana tympani remains entire; pus through the Eustachian tube indicates some obstruction to its escape from the meatus; granulations on the upper or posterior wall of the meatus would lead us to suspect an opening into the mastoid cells at that point.

When local depletion and incision through the periosteum are insufficient to relieve the pain and tenderness, the cells should be exposed by perforating the bone. Out of thirty-one cases tabulated by Dr. Buck, in which the operation was performed, the disease was arrested in twenty-three, and of the remaining eight fatal cases, death could not be attributed, either directly or indirectly, to the operation, except in one case; in the remaining seven cases, pyæmia or inflammation of the brain had already developed itself before the operation. The operation should be performed as follows:—after exposing the bone, its condition should be examined, and, if roughened or softened, it should be perforated with a director; if pus is found beneath the periosteum, a sinus should be sought, and, if found, enlarged; if no natural opening is seen, the bone should be perforated inwards, forwards and upwards from a point a quarter of an inch distant from the meatus, and a little below the level of its upper wall, till the mastoid cells are reached; the long septa should then be broken down with a director. The only caution in the operation is not to wound the lateral sinus. The after-treatment consists of keeping the wound open by tents, poultices and dressing.

The article closes with a tabulated statement of thirty-five operations, from various authors.

(8.) The artificial perforation of the mastoid process is discussed, historically and clinically, by Schwartze and Eyssel, and their investigations of the anatomy of the mastoid cells are of interest, as they have succeeded in describing the relations of that very irregular cavity.

At the level of the hammer-anvil axis, the posterior wall of the tympanum bends backward at a right angle, and forms the floor of the antrum mastoideum; just below this floor, lie the external semicircular canal, the facial nerve and the stapedius muscle. The upper wall of the tympanum passes directly backwards, and forms the upper wall of the mastoid. The anterior part of the antrum, next the tympanum, forms a triangular cavity. Two millimetres behind the insertion of the short process of the anvil, the passage from the antrum begins to enlarge downwards and outwards, forming a cavity about nine millimetres high, twelve long and five deep. This cavity lies forwards, upwards and inwards from the rest of the mastoid cells, and is bounded on its upper, lower, inner and posterior sides by the petrous bone, and on its outer side by the squamous bone. From this cavity as a centre, the mastoid cells branch out in the form of a fan, but, from the absorption of their partition walls, often become irregular. The cells in the petrous bone are the largest; those in the squamous bone, over the meatus, the smallest. Occasionally, the occipital bone takes part in the formation of the cells.

The second part of their paper is occupied with a discussion of the different modes of operation, and the authors prefer to open the bone with the chisel rather than with a borer trephine; in other respects, this section offers nothing new. Finally, a table of fifty-nine cases, from different authors, is given.

(9.) A startling series of observations, made on himself for a number of years, are described by Nussbaumer, in which he attacks the physiological axiom that each organ of sense is capable of peculiar perceptions which can be excited by no one of the other organs of sense.

The author himself, and his older brother, both have this peculiarity, that every perception of sound, either music or noises, excites also a perception of light. His ear is so delicate, that with the deep notes of a piano he is able to hear eleven over-tones, and with each one of these has a distinct perception of light. As children, he and his brother were in the habit of designating frequently the tones of different objects when struck, not by the sound, but by the color produced. To learn whether the perceptions of the two brothers were always the same, a long series of questions to be answered by each were written, from which it seemed that, although each had a perception of light with each sound tried, yet the color of the light varied, being, for instance, for the note A, in one dark-prussian blue and in the other dark yellow.

The color was never seen externally, but, as he expressed it, his brain suffered from the action of a sound-wave in the meatus, not only the normal, but also such a change as produced in his consciousness an impression of color. When in concentrated thought, however, the perception of color might escape notice.

In the discussion which followed, Prof. Benedict considered that the phenomena were not physiological but pathological. Optical perceptions as the direct result of acoustical perceptions could only be pathological; similar obscure diseases of the mind and brain were frequently observed in hysterical, hypochondriacal and melancholy persons, but were not understood, as most physicians were unskilled in psychology. He predicted that similar observations to those of Nussbaumer would soon be reported, now that attention had been called to them. Finally, Prof. Benedict warned the patient against farther observations on himself, lest the phenomena should overpower him, especially as it was evident that there was an hereditary tendency; possibly, heterotopia was the cause of the phenomenon.

(10.) Bezold, with the history of ten cases of the disease, adds his contribution to the pathology of parasitic growths in the ear. In all of his cases, the presence of the vegetable parasite had been preceded by the instillation of oil into the external meatus, which, in his opinion, furnished a favorable soil for the development of the plant; but the presence of the growth he considers a specific parasitic disease, and not an accidental circumstance, for having once formed on foreign masses, such as cerumen, dead epithelium or oil, it may invade the healthy epidermis of the meatus or membrana tympani. The latter part of his paper is taken up with a description of the various species of vegetable parasites which have been discovered by the authors whose experiments he accepts as conclusive, although none have yet been given in which the spores in the atmosphere have been so perfectly excluded as to allow only the development of the parasite originally planted.

(11.) Zanfal adds to the little which has been written on injuries of the ear the histories of six cases observed by himself: viz., hæmorrhage between the layers of the membrana tympani, with consecutive meningitis, the result of a fall into the water; rupture of the membrana tympani from the same cause, with the same result; hæmorrhage between the layers of the membrana tympani, the result of a cannon explosion; hæmorrhage in the right membrana tympani, the result of a fall from a wagon on to the pavement; rupture of the right membrana tympani, which was already atrophied from disease, the result of a blow on the ear with the fist; rupture of a cicatrix in the left membrana tympani from a blow with the fist.

(12.) Lucæ reports ten cases of what he calls instances of pearl-tumors, in order to call attention to the serious nature of the disease, and also to the seat of the tumors, which, he asserts, is in the tympanum. He distinguishes the masses found in his cases from the epidermal masses resulting from a simple purulent otitis, and only applies the term pearl-tumor to lamellæ of large cells, without nuclei, which have formed considerable masses resembling beans, peas, or acorns. In all of his cases, chronic otorrhœa had existed for years, the membrana tympani was perforated, portions of the bone were destroyed, and the pathological masses were removed by syringing from within the tympanum. No evidence is, however, brought forward to show that the epidermal masses were the cause of the destruction of the bone, and in the discussion which followed the reading of Lucæ's paper, both Langenbeck and Waldeck considered that the masses in question were rather the result of the long-continued inflammation and caries than the cause of it.

(13.) Politzer, in a long article, in which he discusses the various methods of removing exudations from the tympanum by the air-douche and paracentesis, also gives his conclusions on the value of the tympanic catheter, first introduced by Weber-Liel. In the secretory affections of the tympanum, with swelling of the Eustachian tube, he found the catheter useful for injecting astringent and alkaline solutions, but the results were no better than those obtained from the same injections through the Eustachian catheter; in the most insidious affections, the results from the tympanic catheter were not favorable. Only in the rare cases in which the Eustachian tube was very much swollen, was he able to gain by the tympanic catheter what he was unable to do by the air-douche or Eustachian catheter.

(14.) Dalby reports the case of a young child, who thrust a pair of sharp-pointed scissors into the left ear, perforating the membrana tympani; the injury was followed immediately by complete facial paralysis of that side, which still remained the same, three months afterwards. The facial nerve was evidently severed in the Fallopian canal, where this passage passes through the tympanum.

(15.) From an analysis of eight cases observed by himself, Hinton concludes that Meniére's theory of the disease which bears his name is very doubtful, the symptoms pointing more frequently to a real cerebral rather than to a labyrinthine affection.

(16.) From the analysis of a large number of cases of cerebral disease, Dr. Hughlings Jackson expresses the opinion that deafness never results in any way, from any kind of disease, in any part of either cerebral hemisphere.

(17.) To the clinical history of hæmatoma auris, Dr. Farquharson contributes several cases which occurred in boys, from blows received on the ears while playing football, and also refers to two cases in prize-fighters.

(18.) In order to correct the little notch which is left in the lower border of the lobule after the operation for cleft lobule, Knapp adapts the Meriault-Langenbeck operation for hare-lip to the ear, and makes a little flap on one side of the cleft, which is carried over and attached on the lower border of the opposite side by a suture.

Bibliographical Notices.

Fractures of the Elbow-joint. An Essay to which was awarded the Second Prize of the Boylston Medical Society for 1873. By WALTER ELA. Cambridge: Welch, Bigelow & Co., University Press. 1873. Pp. 57.

THE Boylston Medical Society, as is well known by graduates of the Harvard Medical School, is composed entirely of medical students, who elect their president annually from the ranks of the profession. The Society has always been popular among the students, and during the many years of its existence, for it is quite a venerable society, it has succeeded in enrolling among its members only those students who were earnest in their work. It has served a useful purpose, like the popular clinical conferences, in encouraging original contributions and debate among the students themselves. Two prizes are usually awarded annually for essays on any medical subject, and the standard of these has testified favorably to the character of the students and the excellence of the instructions which they have enjoyed. It was a noticeable fact, however, that the number and high standard of these essays offered this year exceeded in a marked degree those of former years. As evidence of this, we have but to call attention to the elegant little volume of Mr. Ela.

Fractures of the elbow-joint are, perhaps, among the most dangerous of surgical injuries—to the ignorant practitioner—an apparently slight injury being followed by a condition which seriously impairs the usefulness of an important member, perhaps to the surprise of physician as well as patient. It is but too frequently by dearly bought experience that the practitioner learns to appreciate the difficulties attending the treatment of this injury. Mr. Ela, in his essay, after some prefatory remarks on the anatomy and development of the elbow-joint, describes accurately and clearly the various forms of fracture to which it is liable; where necessary, his remarks are illustrated by diagrams and drawings made by Dr. H. P. Quincy, whose reputation as an artist is rapidly becoming well known. The simplicity, but the importance of the treatment now adopted by our best Boston surgeons for this injury has received due attention, and the essay closes with an account of the dissection of an elbow-joint which had sustained, among other injuries, that of impacted fracture of the neck of the radius. The case is handsomely illustrated. We cannot close our notice of this brochure without complimenting Mr. Ela on the excellent character of his work. We do not remember to have seen a better description of these injuries, and we recommend it as a valuable addition to any physician's library.

Handbook of Physiology. By WM. S. KIRKES. Edited by G. W. MORANT BAKER. A new American from the eighth English Edition. Philadelphia: Henry C. Lea. 1873. Pp. 656.

As the English edition has been reviewed in the JOURNAL of April 10th ult., we need now merely mention the form of the American one. This is very briefly done; the paper, type, cuts and binding are all very good.

Handbook for the Physiological Laboratory. By E. Klein, M.D., J. Burdon-Sanderson, M.D., F.R.S., Michael Foster, M.A., M.D., F.R.S., and T. Lander Brunton, M.D., D.Sc. London: J. & A. Churchill, and Philadelphia: Lindsay & Blakiston. 1873. Pp. 583. Plates cxxiii. Two volumes, large 8vo.

This work supplies a want which has long been felt by all readers of physiology. Recognizing the fact that physiology is emphatically an experimental science, it furnishes minute instructions for performing a great variety of experiments illustrating all the most improved methods of physiological investigation. The directions are given so much in detail that in many cases the student may dispense with the assistance of an instructor, but here, as in all investigations involving delicate manipulation, the most minute written instructions can never take the place of experience. It may, perhaps, be feared that a work of this sort will be likely to encourage indiscriminate vivisection, and to lead to an amount of suffering out of proportion to the advantages obtained. The writers, however, seem to have had this danger in view, and have given careful directions for administering anæsthetics and narcotics. Certain classes of experiments are omitted, for the avowed reason that they do not succeed on narcotized animals.

By dividing the work to be done, amongst four investigators of acknowledged experience in their own departments, a degree of excellence has been obtained impossible by any other method. The work is distributed as follows:—

I. Histology, by Dr. Klein.
II. Blood, Circulation, Respiration and Animal Heat, by Dr. Burdon-Sanderson.
III. Muscles and Nerves, by Dr. Foster.
IV. Digestion and Secretion, by Dr. Brunton.

The plates, 123 in number, form a volume by themselves. The inconvenience which necessarily results from thus separating the plates from the text, is greatly increased by the confused arrangement of the figures. For instance, the figures of the first six plates occur in the following order: 1, 12, 2, 13, 16, 3, 4, 14, 5, 6, 17, 11, 20, 21, 18, 19, 22, 23, 24, 25, 7. Fig. 8 is on the 17th, and Fig. 9 on the 37th plate. Such confusion must, of course, cause the reader great waste of time. The execution of the plates, however, leaves nothing to be desired. Those illustrating the histological portion of the work are models of clearness and beauty. Particularly worthy of attention are those figures which show the distribution of the non-medullated nerve fibres, as revealed by the chloride of gold process, and those showing the relation of the lymph-spaces to the lymphatic vessels on various parts of the body.

In this portion of the work, the writer gives all the most approved methods for preparing the various animal tissues for microscopical examination, and describes and figures the latest results of histological investigation. A student of histology could scarcely desire a better guide. It would have been an improvement, however, if the enlargement of the figures had been expressed in diameters, instead of indicated by reference to the objective and eye-piece used, for a beginner derives very little information from "Oc. 4; Obj. 7," especially if he does not happen to be the fortunate possessor of Hartnack's objectives.

In the second portion of the work, Dr. Sanderson describes a number of simple experiments designed to illustrate the chemical and optical properties of the blood, and gives careful directions for analyzing the gases of that fluid. Following these, is a chapter on the circulation of the blood, containing a description of many of those important experiments which have thrown so much light on the functions of the nervous system in regulating the movements of the heart, and the resistance offered by the arteries to the flow of blood. In a department of physiology where so many questions are still under discussion, it is difficult to avoid confusing experiments with the inferences to be drawn from them. Though, as a rule, this distinction has been carefully maintained, yet there are one or two cases (e. g., in the section on the influence of the respiration on the circulation) where the experiments seem to admit a different interpretation from that given by the author. The chapter on respiration contains rules for the determination of the amount of carbonic acid excreted in a given time, and a very good account of what is known of the innervation of the respiratory muscles. In the chapter on animal heat, the problems are stated with a very gratifying clearness, and the dependence of the temperature of the body on the relative activity of the production and the loss of heat most distinctly explained. The chapter is necessarily a short one, for there is no great variety in the experiments to be performed. In this second portion of the work, quite a number of misprints occur, which should be corrected in another edition.

Dr. Foster gives, in the third portion of the work, very minute directions for making a large number of observations on the properties of nerves and muscles, including the effect of stimuli of various sorts, and the demonstration of the electrical phenomena peculiar to those tissues, both in activity and repose. This, of course, involves the use of some rather delicate apparatus, the manipulation of which is very carefully explained.

The fourth portion of the work, by Dr. Brunton, begins with a chapter on albuminous compounds, which is followed by a second on the chemistry of the tissues. These two chapters together form one of the best handbooks of physiological chemistry in the English language. Many of the processes and reactions are taken from Hoppe-Seyler's well-known work. The chapters on indigestion and secretion contain excellent directions for obtaining the various digestive fluids and other secretions from the living animal, and the methods for investigating the peculiar properties of each. The author indicates, by a single or double asterisk, the more important experiments or processes, thus affording great assistance both to teacher and student.

In an appendix, are given rules for a variety of manipulations of great importance to students in a chemical or physiological laboratory.

The publication of this work may fairly be regarded as markingan important advance in physiological science, for it enables all students and practitioners of medicine to verify for themselves the experimental basis upon which scientific medicine must ultimately be built up.

H. P. B.

Foods. By Edward Smith, M.D., LL.D., F.R.S., of London. American Edition. New York: D. Appleton & Co. Pp. 476. 8vo.

This book is one of the International Scientific Series, now in course of publication by D. Appleton & Co., of New York. A few of the series besides this have been published. The others, we are informed by the advertisement, are in course of preparation.

The object of Dr. Smith's book is to give the latest scientific knowledge with regard to food, and at the same time to treat the subject in a manner sufficiently popular to be understood by the non-scientific classes. Water and air are very properly included in this volume and discussed as foods, with which they have most intimate relations, both in their sanitary and nutritive aspects. The subjects of diet and dietaries are not considered here. Dr. Smith has reserved the discussion of them for another occasion. He gives, however, a variety of tables, that are of interest and value both to the scientific and general reader, and a number of old recipes for the preparation of food, relics of the past, which are curious rather than valuable.

After a brief introduction upon the nature and qualities of foods, the book is divided into three parts. The first part treats of solid foods, and is naturally subdivided into two sections, which describe respectively animal and vegetable foods. Part second is devoted to liquid foods, with which it is noticeable that water and *alcohol* are classified. The third part describes gaseous foods, or atmospheric air and ventilations. A sufficiently copious index closes the volume.

Dr. Smith defines food to be "a substance which, when introduced into the body, supplies material, that renews some structure or maintains some vital process," a definition which is more comprehensive and philosophical than that of M. Voit, who defines a nutriment "to be a substance which is capable of furnishing to the body any of its necessary constituents, or of preventing the removal of such constituents from the body." According to M. Voit, starch is food solely because it protects fat from decomposition in the body, and if taken in excess causes the decomposition of fat there. According to Dr. Smith, starch is a food, not solely because it restrains the consumption of fat, but also because the changes through which it passes in the system, are accompanied at every step by the production of heat, that is, by the evolution of force. We should not refer to what at first sight seems so trifling a matter as this, were it not that much needless discussion can often be avoided by exactness of definition, and especially does this hold true with regard to food. Many wordy fights, with regard to the claims of alcohol to be considered a food, would have been avoided, if the combatants had agreed first upon a definition of terms. According to Dr. Smith's definition of food, every one would classify wines and the like under that head.

The chapter on alcohol and alcohols is one of the best accounts we have seen of the physiological and therapeutical action of those agents, but still it does ont present a complete account of them. Dr. Smith's views, which recognize fully the evils and dangers of distilled and fermented drinks, would not be indorsed by the intemperate advocates of the temperance reform. He favors, however, distinctly and unequivocably, the restriction of the sale and use of spirits, wines and beers to physiological purposes. Whenever the so-called friends of temperance will stand upon a physiological platform, they will exert an influence and bring about results, greater and better than any hitherto accomplished.

Dr. Smith's treatise is an excellent one, and physicians will find in it much that is valuable to them in the management of disease, and especially in the management of convalescence. The laity can read and study it with advantage, also, and without the danger of getting nervous over it. We commend it to all who desire to know how, when and what to eat. The typography of the American edition is excellent.

E. H. C.

THE CIS-ATLANTIC NEW DEPARTURE IN MEDICAL TEACHING is the title of an Editorial in the *Peninsula Journal of Medicine* (Detroit). We quote the following extracts :—

"The fact that Harvard, with the inherited qualities of the stern old Puritans—the blue blood of New England flowing through her veins—has crossed the Rubicon is the first sign of the times. With the true heroism of her ancestors, has she buckled on her armor against the enemies of enlightenment, and drawn the sword in favor of scientific knowledge. A hundred have fallen away from her into less disciplined ranks ; but what has she not gained ? Has she not called to her standards, in the two years since her new departure, a class of men who cannot be equalled by any other college in the land ? Are not the profession in the East, West, North and South, beginning to send up their best qualified students to her halls, hospitals and clinics ; and is not Boston almost at once placing herself at the head of medical instruction of the best class ? For the one who has fallen away from her on account of her advanced requirements, two will be found, not far in the future, listening to her instructions. Can we not hope that our own University may soon be found following closely where she has lost the opportunity to lead ? We can understand, that wherever the compensation of the professors depends largely upon the number of the students, the initiative could hardly be expected from them ; and that this has been almost the sole reason for the delay, the profession at large most thoroughly appreciate ; but that institutions in which this has not been the case, should allow themselves to be kept back for so many long years, is utterly incomprehensible.

"We are not of those who believe that the Atlantic slope is destined to long define the bounds of all literary or scientific leadership ; that the Alleghanies can shut out from this great continental middle ground the light which is destined to vivify and develop all that is possible, or that can be required intellectually of this great people. Neither do we believe that the large, overgrown class system is conducive to the best teaching, or the best learning. The plan of Harvard, which is essentially the British system, and, according to Billroth, makes the best doctors in the world, can be introduced into any and every medical school in the land.

"Until reform is generally adopted in this matter, by American medical schools, and the directors and controllers of our institutions of learning meet this question of higher medical education squarely, face to face, we will be obliged to hold in more than usual esteem and consideration the professional brother who is entitled to inscribe after his professional initials the official stamp (Harv)."

Boston Medical and Surgical Journal.

BOSTON: THURSDAY, OCTOBER 9, 1873.

PERHAPS no one thing contributes more to the health of large cities than the fostering of a taste among the community for frequent healthy recreation in the open air. It is second only to the enforcement of sanitary laws which we are now, for the first time, beginning to appreciate, since the enjoyment of the luxury of an efficient board of health. It is a notorious fact that Americans, absorbed as they are in the pursuit of wealth, have, for generations, disregarded and neglected the means of recreation and rest from labor which the necessities of the human frame demand, until they have become nearly incapable of indulging in rational and healthful modes of enjoyment. We speak now more particularly of the laboring classes and of those whose means do not permit of an escape from the cares of business and hard work to the seaside and the country. A decided movement has taken place among the wealthier classes, of late years, and an entire change of scene and life for one or two months of the year is adopted by all who feel able to do so. In fact, people in this country are just beginning to learn how to live. The large and more numerous class of the community, who never leave the city, remain still to be provided for. If we make the tour of our streets on a summer Sunday afternoon, we shall find that it is but an insignificant portion of the inhabitants who now avail themselves of such parks as we now possess; nine out of ten are contented with their own door-step, the street corner, or perhaps a secret rum-shop. How, then, is this much desired change to be fostered and encouraged? The example of other countries may give us a clew to the solution of this problem. Great Britian is, perhaps, as poorly off as ourselves in this respect. There is scarcely a more gloomy spot on the face of the earth than many an English city on a Sunday afternoon. In London, however, it may be said, the case is somewhat different; the parks are large, numerous and beautiful, and a new one has lately been opened, the Victoria Park, expressly for the benefit of the working classes. The Alexandra palace, lately destroyed by fire, although a private enterprise, was intended for the same purpose.

When we come, however, to the continent of Europe, we see how much really can be done for public amusement. In addition to the large park in the immediate vicinity of every city of tolerable size, with a handsome avenue connecting the two, there exist innumerable places, in the city's environs, suitable for an afternoon's excursion, and what is more important still, the means of getting out of town are numerous and cheap. In most cities in Germany, the streets are well-nigh deserted on fine fête days and Sunday afternoons. It is not the beauties of nature, alone, which entice the families of these cities from their homes. The means of rational enjoyment are varied and numerous. It is not thought wicked to row on the lake, to play at some innocent game, or to frequent the neighboring restaurant, where dinner may be had in the open air, and lager beer and light wines are in abundance. Drunkenness and rioting are almost unknown to these people. It would take more space than our columns allow, to enumerate merely the opportunities which the poor man has for enjoying himself. The refining and healthful influence of this mode of life has left an indelible mark on the people of these countries. Can we not profit by their example? Such a radical change in the habits of the people as this would imply could not be brought about perhaps until after the lapse of many years, and then indeed could not be carried to the extent which obtains in the more equable climate of Europe. The advantages to be gained, however, by attractive well-kept breathing spaces, within the limits of a city, and an available public park in the neighboring country, have been demonstrated in many of our large cities, and it is to be hoped that public opinion will, ere long, urge a reform in these matters, and that Boston may appropriate some portion of her beautiful suburbs, before the opportunity is forever lost, and place this department in the hands of men sufficiently educated and competent to make it what it should be.

It is not to be expected that so great a reform as the acceptance of ether and the repudiation of chloroform, in England, should take place without many delays and much bitter discussion. Our chief surprise is that so much progress should have been made in so short a time. We have no desire to take part in the controversy, for, now that ether is on trial there, it may be left to its own merits, but we think it right to correct a gross mistatement which, if uncontradicted, might deter many from trying it. Dr. Charles Kidd, of London, has written a paper, which appears in the *Edinburgh Medical Journal* for August, which, besides many less important errors, contains the following sentence: "The well-known seven deaths at Lyons, and forty-one of the Boston committee, all from ether, are, from insufficient knowledge, forgotten or misrepresented." Any one, ignorant of the facts, would infer from this that a committee of Boston physicians had found that ether had caused death in forty-one cases. The truth is that a committee appointed by the Boston Society for Medical Improvement, to inquire into the alleged dangers of ether, collected forty-one cases of alleged death from its use, and reported, among other things, that there was "no recorded case of death, known to the committee, attributed to sulphuric ether, which cannot be explained on some other ground equally plausible, or in which, if it were possible to repeat the experiment, insensibility could not have been produced and death avoided." In many of these cases, it was simply preposterous to attribute the death to ether, as in sixteen it occurred at least three days after inhalation (in six cases, from eleven to sixteen days), and in others, not for several hours. It is hard to conceive how one, writing so confidently as Dr. Kidd does, should have made so inexcusable a blunder; perhaps he intended to illustrate, by an example, the misrepresentation "from insufficient knowledge" to which he alludes.

Medical Degrees for Women.—The discussion begun in the English press after the recent decision of the Scotch courts adverse to the suit of Miss Blake and others, claiming degrees from the University of Edinburgh, is still in progress. The question now is, what shall women do who desire to obtain a medical education? Mrs. Anderson, M.D., recently published a communication in the *London Times*, advising those of her sex who were ambitious of professional service and honors to go abroad for their education and degree. The trouble in England is that it is now impossible for a woman to obtain the license of a legally qualified practitioner, without which, she is in the eye of the law a quack, unable to institute suits to recover fees for professional services, a disability for which the circumstance that she cannot be held responsible to the state for malpractice is but a poor compensation. Mrs. Anderson argued that the proper resentment for such privation was for the women who desired knowledge to shake the dust of England from their skirts, and honor the schools and hospitals of Paris by their patronage, until the English government came to its senses and removed the restrictions hampering the sex.

Miss Jex-Blake, one of the heroines of the late controversy in Edinburgh concerning the right of women to receive instruction in the medical school of the university, antagonizes the views of Mrs. Anderson in this particular. She thinks self-expatriation is the very worst and most foolish thing the women could do, and that it is, moreover, unnecessary. Writing from Edinburgh, she intimates that Mrs. Anderson concedes too much by assuming that all the Scotch universities are permanently closed to women, and points out how purely technical are the barriers now remaining between women and the privileges they desire. She is very hopeful of the speedy provision of a way to secure what is wanted, either in England, Ireland or Scotland. Suppose English women do go abroad to secure an education; they will be, when they return, on precisely the same footing as now, unless the laws are changed, and nothing will in her view do so much to prevent a change as an apparent acceptance of the situation by those who are most interested. Indeed, the opponents of the needed reform would hail the expatriation with satisfaction. The way of duty is not in this direction. It is more serviceable to the end to stand waiting and protesting.

Miss Jex-Blake points out the fact that the case is not so intolerable after all; at least, that there is a possibility open to women of obtaining a sound medical education at present. The extra-mural school in Edinburgh is open to them, and, with slight changes in the curriculum, a thorough medical education can be secured there without change of the existing conditions, and she is decided in the expression of opinion that it is infinitely better for Englishwomen to obtain their education at home, in their own language and amidst the social conditions in which their future practice will be. No foreign diploma or degree is acknowledged as qualifying the bearer for registration in England. The main thing is to get the laws changed, and she entertains a cheerful confidence that this may be effected during the next session of Parliament. In this connection, it ought to be stated that Mrs. Anderson has her legal status assured by a license of the Apothecaries' Company, granted some years ago, but of late that company has refused to recognize the sufficiency of private instruction.

The *Times*, in an article reviewing the matter, declines expressing any opinion as to the policy of going abroad for study, but is quite discouraging in its comment on the probability of speedy action by Parliament for the removal of obstacles. For several years, ineffectual attempts have been made to procure action on a bill reforming the standard of professional attainments for men, and the *Times* thinks that if those who are already in the ranks of physicians cannot get their wishes heeded, there will be little chance for those who are merely aspirants. The whole subject will have to be delayed until the government can be prevailed upon to bring in a general bill regulating the profession. As to the mooted project of establishing a medical school especially for women, the writer of the article thinks it would not pay, and the founders would discover, after spending a good deal of money, that they had to show for it only some useless and empty buildings. Evidently he does not believe that the demand justifies such an enterprise, and adduces experience in the United States to justify his opinions.—*Boston Daily Advertiser*.

THE CENTRE OF THE NERVES OF ERECTION. By WM. ASHBRIDGE, M.D.—Professor Goltz was induced, by the statement of Eckhard that the nervi erigentes could be followed within the spinal marrow and even up to the pons and into the cerebrum, to publish the results of investigations of the subject made by himself upon dogs, and which have led him to a different conclusion. He is convinced that the nearest centre from which the nerves in question have their origin, is the spinal marrow of the loins. After section of the posterior segment of the cord in the thoracic region, he was enabled to cause erection by reflex influence.

He found also that the occurrence of these reflex phenomena can be checked by irritation of nerves of sensibility.

Further than this, he observed characteristic rhythmical contractions of the sphincter ani in animals whose spinal cords had been cut, which could also be restrained by irritation of certain parts. He concludes that the spinal marrow of the lumbar region contains centres of influence of far more diversified character than has previously been supposed.—*Philadelphia Medical Times*.

Correspondence.

LONDON LETTER.

(From our Special Correspondent.)

LONDON, SEPT. 10, 1873.

THE annual meeting of the British Medical Association held here has been, according to quite universal assent, a very important and successful affair. It has exercised an influence which it is more easy to appreciate now, perhaps, than it was at the time of the meeting, and from it some lessons may be learnt which may be of interest to those who desire to see the American medical profession similarly knit together in a powerful association, and meeting annually in great numbers, and for the transaction of matters useful to themselves and calculated to raise the profession in public influence and estimation. That has undoubtedly been the character of the London meeting; nearly two thousand medical men attended it, and among these were all the most eminent men in the country, or nearly so. Fergusson, Paget, Jenner, Burrows, Hughes Bennett, Hilton, Curling, Gairdner of Glasgow, Macleod of Glasgow, Runnelly of Cheltenham, Paget of Cambridge, Humphrey of Cambridge, Ceely of Aylesbury, Quain, Marshall, &c., these are all names which you will recognize as amongst our most representative men, and, of course, they are only a few out of many. There were very few who were absent, and these only because the meeting falls at the close of the season, and the labors of the year prove so exhausting to some that they feel necessitated to get rest when the 30th of July has come. It may be interesting to examine what it is in the constitution of the British Medical Association that makes its meetings attractive to the best men, and gives it the power in the State which it unquestionably exercises. How is it that it numbers 6000 members? that it has flourished in spite of all obstacles and of great opposition? and that, when it met in London, it was welcomed by the Lord Mayor at an official reception at the Mansion House, prepared with great pomp and expense, and by the Prime Minister, Mr. Gladstone, who was at the pains to attend its banquet and to pay it the most handsome tribute of respect? and, farther, that the *Times*, the most exclusive and least professional of all political papers, devoted a great number of columns daily to the report of the proceedings? You will find, possibly, many different explanations from different sources; but, looking at the facts, they will be found to have their own logic.

The Association was founded forty years ago by a provincial physician, Dr. Hastings, who aimed at raising the country practitioners to a position more nearly resembling that of the great metropolitan practitioners than they then held. He wisely held that this was best done by uniting them in an effort to cultivate high objects, and to sustain their honor and prove their claims to position by the development of scientific effort and the maintenance of a high ethical code. The advance of the provincial practitioner in position since the establishment of this Association, has been marvellously great; the Association alone could not have effected this result. It is due, in no small measure, to the general diffusion of a degree of culture which was once the property of the few, and to such an improvement in the tests for diplomas, that the ordinary general practitioner of to-day is of necessity possessed of a larger amount of technical information than the hospital physician of forty years ago needed to possess, so far as strictness of examination demanded it of him. But the Association has had a vast influence in the fortunes of the provincial practitioner, by giving him what he did not before possess, the power which union commands and the ambition which that power begets. Fortunately, the men who guided the Association in early years were not beset by petty notions or by the wish to pull others down in the desire to aggrandize themselves. They worked in this way. They arranged branches or sections in all the different districts of the country (as far as they could); each section or branch elected its own officers, held its own meetings for scientific purposes, and elected one delegate for every twenty members, to act in the General Council. The General Council assembled once a year only, at the date of the annual meeting of the whole Association, and then proceeded to elect twenty members as a Committee of Council, or Executive Committee. This executive committee acts throughout the year as the ruling body of the Association in all matters of general policy, and it alone can speak for the Association. Besides the twenty elected members, the president for the year and the honorary secretary of each branch are also members of the executive committee *ex officio*. Thus, anything like jobbery is prevented. The Association can also appoint standing committees on particular subjects, throughout the year, but the action of such committees can be at any time controlled by the executive committee, who are also empowered to decide all questions of expenditure. The president of the executive committee is elected biennially, and is not competent for re-election, but becomes, on retiring from office, a life-member of the executive committee. The Association meets every year, in a different town, by invitation, and elects a president for the year from the practitioners of the town at which it meets. This alone gives dignity and prominence to provincial practitioners, and, as the nomination of the president of the year is made by the local profession, the result has always been satisfactory.

We come now to the question of funds and members. The great element of success in any institution requiring a subscription, is that it shall give some obvious and palpably adequate return for the subscription. Sentimental reasons will attract a certain income, but it will die off if not sustained by evidently sufficient results, and will never be large. The first return made was in the form of "Transactions," but such transactions were soon found to be of insufficient interest, and not to compare favorably with those of societies having a permanent residence in the great centres of learning and activity throughout the year. They were valuable, but they were tardy in issue and heavy in character. A weekly journal was found more lively, prompt and vigorous, and a return more valued, while it kept the Association well together and reported the affairs of all its branches. It has of late years developed into all the characters of a weekly paper of vigor, and, without saying anything more about it, I may say that it is popular and cheap, ranks as an authority outside the profession, and is read more largely than any other within it. It has been pointed out lately by the Council, by Dr. Quain, by Mr. Baker, and by all impartial observers, that the development of the *Journal* has greatly favored the growth of the Association.

It is, however, very apparent that the *Journal*, while helping the Association in an incalculable degree, has also raised up for it powerful enemies by the very fact of its existence. The whole influence of the other medical papers has, indeed, been incessantly employed against the Association, which they have with reason regarded as a rival publishing company, interfering with their business. In the case of the British Medical Association, where the constant meetings of the branches require not less than weekly publication to give cohesion and continuity to the work of the Association, it has answered well to brave that disposition, and the battle has been carried to a highly successful issue. It would be very unsafe to predicate a similar success for any other association, if placed under similar circumstances. What is really necessary is, to make a return for the money subscribed. Now, in the case of an annual association, experience has shown that money spent on "Transactions" should be limited. The professional papers may be trusted to give a fair account of the proceedings, and only the most important papers read should be published in the transactions. No money should be spent out of the funds of the Association on the reception and annual meeting. These should be entirely furnished out of the subscriptions raised *pro hâc vicâ* from the local practitioners who have the honor and pleasure of receiving the visit of the Association. No money should be paid to any official, except the *under secretary*, who need not, and had better not, be a professional man (but a business man), and who need not, and had better not, have a vote in the Council. The annual meeting should be made attractive by arranging for the delivery of retrospects of medicine and surgery, obstetrics, physiology, &c., by eminent men, who should be officially invited to deliver them, by a joint arrangement of the local reception committee and the executive committee; ethical questions should be entirely excluded from discussion at the annual meeting, and referred, in the first instance, to local committees, and then to the general executive committee. For each day's work, a series of questions should be prepared; some one gentleman of known experience in the matter being invited beforehand to prepare a preliminary paper on the subject. Meetings so arranged could not fail to be popular; they would be proportionally influential, and there would be a handsome surplus for general and scientific purposes.

This is, of course, only an outline sketch of views which are derived from observing the course of our various British societies. I have stated them, perhaps, dogmatically in form, but not in intention; and the form is due to the necessity of being brief, with the hope of avoiding a fault into which I fear that I have nevertheless fallen, that of being tedious.

SEPTEMBER 26th, 1873.

MESSRS. EDITORS,—"Country Doctor," in your issue of yesterday, seems to question the statement, *said to be made* "in the books," that "the smallest angle of distinct vision is about one second," since he was able to see a single thread of spider web in the early morning, when the sun shone on it, at seventy feet distance, while this thread at the distance mentioned would subtend an angle of less than the hundredth part of a second.

If I understand Country Doctor's argument correctly, it is this:—The books say that the smallest angle of distinct vision is one second. I can see an object which subtends an angle of less than the hundredth part of a second. Ergo: the books are wrong.

I should like to point out some fallacies in this argument.

1st. The thread was seen in the early morning—clear and cold may be inferred from the fact that Country Doctor feared injury to his squash vines from frost. On such mornings, the threads of the spider's webs would, as is well known, be coated with dew, and thus the reflecting surface be much greater than that of the thread alone which was measured under the microscope.

2nd. Admitting that the object seen subtended but an angle of less than the hundredth part of a second in *one direction*, in the other, that of its length, it probably subtended an angle much greater even than the "one second" which Country Doctor appears to object to: i. e., if the thread were only three inches long, it would have subtended an angle of more than twelve minutes in the direction of its length.

3d. Seeing an object, and *distinct vision* of an object are very different things, in degree at least. In order that Country Doctor should have *distinct vision* (as understood "in the books") of his thread, he should be able to *accurately* distinguish such threads placed side by side and separated from each other by intervals only equal to the width of the individual threads.

4th. I am unable to find "in the books" the statement that "the smallest angle of distinct vision is about one second." The test usually employed for the determination of *distinct vision* is that of Snellen's test-types, and these, at the average extreme distance at which they are made out by the normal eye, subtend an angle of five minutes. According to Hooke, as quoted by Helmholtz, two stars, the apparent distance between which is less than thirty seconds, always appear as one, and scarcely one observer out of a hundred can distinguish them when their apparent distance is less than sixty seconds. Objects, however, which subtend an excessively small angle can be *perceived* by the eye, provided the intensity of the light coming from them is sufficient, as the fixed stars, for example. In the instance given, the direct rays of the sun were reflected from the threads of the spider's web, and the intensity of the light was therefore great. Very respectfully "MOTE."

Medical Miscellany.

TIMELY.—"Take every opportunity of learning to treat disease pleasantly—seek to make your medicines, your drugging of your patients, as elegant, as little nauseous, as little like medicines, as possible."—*Lond. Med. Times and Gazette.*

RIGHT.—"The medical man must warn the public from popular medical fallacies and the foolish pretensions of the quack. He will be called upon to expose the follies of homœopathy—a system founded in deceit, built up in ignorance, and supported by credulity. The true physician will endeavor to practice rational medicine, and not this or that system."—*London Lancet,* advice to students.

QUADRUPLE BIRTH.—A case of quadruple gestation is reported in the *Chicago Medical Journal* for September, occurring in the practice of Dr. L. B. Brown, of Sheldon, Illinois. The children were all girls, perfectly formed, and of fair size—two weighing five pounds each, and two weighing four pounds each. At the expiration of three and one-half months after birth, all the children were living and in a prosperous condition.

The Philadelphia Medical Times urges strongly the use of fosse d'aisance in that city for over-distended bladders, but fears that the public mind is not yet prepared for such an advance towards the convenience and comfort of the citizen public. It says "we plead for no such unblushing boxes as are to be found on the sidewalks of many streets in Paris. What we desire is the supply of a long-felt want, which is compatible with all decency, and the removal of one of the commonest and most frequent temptations of working men to go into rum-holes.

COOLING LOTIONS IN TYPHOID FEVER.—Jaccoud recommends aromatic vinegar as a cooling lotion in typhoid fever. This is to be applied by means of a large sponge, and the patient is then wrapped in a woolen blanket till he is quite dry. Each application should occupy about two minutes, and it should be repeated two or three times daily, according to the temperature of the patient. The lotions are to be kept up (unless the reaction is too severe) until the fever has entirely disappeared.—*L'Union Médicale,* Aug. 28, 1873.

WARM BATHS IN DISEASES OF THE CHEST.—M. Lasègue concludes, from a series of experiments performed in his clinique, that warm baths produce a diminution in the profuse perspiration of phthisical patients, and have the effect, moreover, of lowering the temperature and the pulse, quieting the anxious patient, and thereby inducing sleep. The temperature of the bath ought to be about three degrees below that of the body of the patient.—*France Médicale,* Aug. 9, 1873.

THE INTERNATIONAL MEDICAL CONGRESS has met this year in Vienna. The session commenced on Sept. 1, with a speech by the Archduke Rainer, in which His Imperial Highness welcomed the visitors to Vienna. The chair was taken by Professor Rokitansky as president, who delivered an address. Special discussions afterwards took place on subjects of sanitary and general professional interests, viz., vaccination, the prevention of syphilis and the control of prostitution; quarantine in general, and in its application to cholera; the formation of an international pharmacopœia; the drainage of towns; and the social position of the medical profession. It is somewhat remarkable in the constitution of this Congress that, though it bore the name of international, and several of its members were accredited to it by the governments and learned societies of their respective countries, there appears to have been a deficiency of representatives from some countries—notably England and Sweden. The next meeting to be held in Brussels in 1875.—*London Medical Record.*

A New Method of Determining the Presence of, and Recovery from, true Ringworm.—At a recent meeting of the British Medical Society, Dr. Dyce Duckworth called attention to the action of chloroform upon the infected hairs in cases of tinea tonsurans, showing that this agent possesses peculiar properties in affecting parasitically diseased hairs. It was demonstrated that this agent caused the hairs to become white or slightly yellow in color, and thus to be distinctly mapped out and easily distinguishable from surrounding healthy hairs. The causes of the change were briefly discussed, and the particular phases of the disorder suitable for this application were pointed out. The effect of chloroform on patches of favus, tinea versicolor, melasma and alopecia areata was likewise discussed.

Warts.—Dr. S. M. Bradley favors the belief in the essential unity in origin of all morbid growths characterized by abnormal development of epithelial elements, such, e. g., as scirrhus, epithelium, epulis and common warts. He affirms that the simplest of these tumors may evolve the more complex by the agency of external forces, such as irritation, pressure, &c. (the influence of heredity being always great in determining the exact nature of the morbid product); and that the power and rate of infiltration and invasion of the general system is due to simple laws, such as the size and shape of the cells, their degree of moisture, and the nature of the surrounding tissues. He maintains that, as electricity, by coagulating the albumen of a part, establishes a barrier to the onward march of the cell elements, it should, therefore, be employed in all cases of infiltrating tumors, when it is decided to eradicate the growth.—*British Medical Journal.*

Large Professional Fees.—It is not often that a professional man has the opportunity, or perhaps feels equal to the effort, of returning two fees of a thousand guineas each, in the course of the same year. It is understood, however, that this has occurred with Sir Henry Thompson this year. The first occasion was in connection with the illness of Emperor Napoleon III., when Sir Henry, in the most delicate and kindly manner, returned half of his fee of two thousand guineas; and the second is an instance yet more highly honorable to professional delicacy. Called to the bedside of a wealthy friend in the Highlands, near whose shooting lodge he was passing his vacation, he spent nine days in unremitting attendance. At the end, a cheque of a thousand guineas was handed to him, but was firmly declined, on the ground that the attendance was given to a friend and during a holiday.—*London Medical Record.*

Married,—In Stoneham, 30th ult., Dr. Winthrop F. Stevens to Miss H. Maria Curtis, both of Stoneham.

Mortality in Massachusetts.—*Deaths in seventeen Cities and Towns for the week ending September* 27, 1873.

Boston, 151—Charlestown, 18—Worcester, 19—Lowell, 31—Chelsea, 8—Cambridge, 12—Salem, 14—Lawrence, 12—Springfield, 11—Lynn, 16—Gloucester, 3—Fitchburg, 4—Newburyport, 2—Somerville, 8—Fall River, 25—Haverhill, 10—Holyoke, 3. Total, 347.

Prevalent Diseases.—Cholera infantum, 63—consumption, 60—typhoid fever, 27—dysentery and diarrhœa 15—scarlet fever, 13.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

Deaths in Boston for the week ending Saturday, Oct. 5th, 159. Males, 87; females, 72. Apoplexy, 3—inflammation of the bowels, 3—bronchitis, 4—congestion of the brain, 1—disease of the brain, 6—cancer, 4—pelvic cellulitis, 1—cholera infantum, 13—cholera morbus, 1—consumption, 13—convulsions, 5—cerebro-spinal meningitis, 1—debility, 3—diarrhœa, 4—dropsy, 1—drowned, 2—diphtheria, 6—dysentery, 2—scarlet fever, 6—typhoid fever, 9—disease of the heart, 6—hæmorrhage, 1—intemperance, 3—disease of the kidneys, 3—inflammation of the lungs, 10—marasmus, 7—noma, 1—old age, 7—paralysis, 3—premature birth, 3—rheumatism, 1—disease of the spine, 1—syphilis, 1—teething, 4—tumor, 1—unknown, 1.

Under 5 years of age, 65—between 5 and 20 years, 11—between 20 and 40 years, 28—between 40 and 60 years, 29—over 60 years, 26. Born in the United States, 102—Ireland, 42—other places, 15.